

REMARKS/ARGUMENTS

As a preliminary matter, the Applicant's agent expresses gratitude to the Examiner for his attention during the telephone interview conducted December 4, 2009. Applicant's agent discussed with the Examiner the Caine, McDonald and Carroll references. Applicant's agent presented arguments for patentability of claim 75 amended in a manner similar to amended claim 75 submitted herein. The arguments presented in the interview were similar to the arguments that follow herein.

First, Applicant notes that the claims 3-5, 99, 102, 146, and 148-157 have been canceled.

Applicant, also gratefully acknowledges the indication that claims 5, 7, 8, 12, 13, 73, 74 and 93 would be allowed if rewritten to overcome the 35 USC 112(2) objections.

Accordingly the following amendments have been made:

Claim 144 has been amended to substantially incorporate the subject matter of prior claims 2 and 5;

Claim 73 has been amended to incorporate the subject matter of prior claim 144.

It is submitted that these claims are now allowable.

The Examiner has objected to the disclosure on the basis that reference character '40' has been used to denote "connectors" as well as a "beam member". The Applicant believes the Examiner is referring to paragraphs [086] to [088] wherein composite beam members are incorrectly referred to with reference character '420' instead of reference character '440'. The reference characters have been corrected in replacement paragraphs [086] to [088].

Replacement paragraph [078] has been amended to add the following:
“Reinforcement units 222 are directly connected to and reinforce only the single panel member 212 and no other panel member of any other panel unit.” This subject matter is already clearly disclosed in Figures 4 – 4c.

The Examiner has objected to the claim language as failing to provide antecedent basis for “rib” or “rib member(s)” or “depression”. As amended, the claims do not reference “rib” or “rib member(s)”. As amended, claim 134 provides antecedent basis for “depression” as follows: “... *said panel member having a longitudinally oriented depression in said upper surface;*”

The Examiner has raised rejection of several of the prior claims based on 35 USC 112 (1) being of the view that amendments made to those claims now contain new matter.

Applicant disagrees with the Examiner’s assessments, but to advance the prosecution of this application has deleted/canceled the following:

- deleted “one-way ribbed composite floor” and one-way ribbed members in claim 99 (claim canceled) and claim 134
- deleted “a panel member...having a shape providing a negative for at least part of a shape of said slab” in claim 128;
- “wherein said third portion comprises a rod having a shape which provides rigidity to said panel member” in claim 146, this claim has now been canceled.

Applicant addresses the following new matter rejections:

“said reinforcement unit having a first portion and a second portion rigidly interconnected by means of a third portion” or “said form panel unit comprises a rigid

structure” or “said first portion comprising a rigidly interconnected vertical section” in claims 144, 148, 149, 150, 151, 155.

Claims 148, 149, 150, 151, and 155 have been cancelled.

Claim 144 has been amended in view of the following portions of the specification as originally filed:

*“Reinforcement units 122 include horizontal reinforcement bar members 114, orthogonally positioned rod members 116 and a spacer rod member 118. **Members 114, 116 and 118 are all welded or otherwise secured together as a composite structure to provide for a rigid structure.**” [paragraph [056] of specification as originally filed]*

*“As particularly shown in FIG. 4a, the reinforcement units 222 include reinforcement bar members 214, vertical rod members 216 and connectors 220. However, instead of a spacer rod as described above, spacer flange members 218 are provided. As specifically shown in FIG. 4b, flange members 218 have a flange 218e and a shaft portion 218f having an end 218d. Shaft portion 218f and head portion 218e are mounted preferably for slidable movement on a portion of rod 216. Rod 216 also passes into a shaft portion 220a to connector 220, in a manner previously described in relation to connector 120. The end 220d of connector shaft portion 220a is also configured to engage head portion 218e of flange 218, when connector 220 is tightened on rod 216. In this way, as connector 220 is tightened drawing the panel material 212 towards the reinforcement member 214, end 218d of shaft 218f will come into abutment with the reinforcement member 214, and connector end 220d will contact flange head 218e. In this way, the panel material 212 can be compressed to some degree between flange head 218e and the head of connector 220. **This ensures a rigid or semi-ridged connection between form panel units 222 and panel 212** and also ensures proper spacing of reinforcement bar members 214 from the inner surface 224 of the panel 212.” [see paragraph [078] of original specification]*

*“Panels 412 and 413 are rigidly held in such space relation by reinforcement units 422. Reinforcement units each comprise rod members 416 having at one end, connectors 421 secured and attached thereto and at the other end, connectors 420 attached thereto. Connectors 421 and 420 can be like connectors 120 but connect to rods 416 at each end in the same manner. Panel 413 is held in slight compression between spacer bar 418 which is rigidly interconnected and secured to rods 416 and connectors 420. Likewise panel 412 is held in slight compression between connectors 421 and spacer rod 419. Positioned in vertically spaced relation to both panel 412 and rod 419 on the one hand and spacer rod 418 and panel 413 on the other, is central transverse reinforcement bar member 414. **Thus, the combination of panels 412, 413 and several longitudinally spaced, reinforcement units 422 (in transverse parallel relation), comprise a rigid unit which is suitable for being mounted and suspended on composite beam members 420.**” [see paragraph [086] of original specification]*

Claim 144 has been further amended to remove the word “rigidly” from the phrase “said first portion comprising a rigidly interconnected vertical section”, as identified and objected to by the Examiner.

The Examiner also was of the view that in relation to claims 75 and 158, the following is new matter:

“reinforcement unit having one or more components all of which contribute only to supporting said form panel unit and no other form panel units of said plurality of said form panel units”.

Similarly the Examiner also was of the view that in relation to claim 134, the following is new matter:

“reinforcement unit having one or more components all of which contribute only to supporting said form panel unit”.

The language objected to in claim 134 has been deleted. However, Applicant has slightly modified the language in claims 75 and 158 such that the claims now call for the

reinforcement unit to comprise a unitary structure that is directly connected to only the panel member of its panel unit, and no other panel member of any other panel unit. Also, the strengthening member of that reinforcement unit / reinforcement unit contributes only to strengthening the panel member to which it is directly connected. Applicant requests the Examiner to reconsider the new matter objections in light of these amendments and the following. It is noted quite clearly in Figures 1, 1a, 2 and 2a that the reinforcement units 122 are only directly connected to a single form panel unit 110 and that the strengthening members in those reinforcement units would thus only strengthen that panel member to which they are connected. The same is true for the embodiment of Figures 4 – 4c

The Examiner has objected to claims 157 and 158 under 35 USC 112. Claim 157 has been canceled. Applicant has amended claim 158 to recite “said reinforcement unit being directly connected to and reinforcing only said panel member”.

Turning now to the prior art objections, the Examiner has rejected the independent claims as being obvious over Caine in view of Carroll.

The Examiner has also rejected the independent claims as also being obvious over McDonald in view of Carroll.

Examiner acknowledges that Caine and McDonald “do not appear to specifically present a foam panel member within the assembly”. However the Examiner has separately combined one or more components of the Carroll reference, including in particular foam layer 13 with the Caine and McDonald references in rejecting those claims, and many dependent claims as being obvious.

Applicant strenuously disagrees with Examiner’s obviousness assessment and reserves the right to argue against the Examiner’s positions. However, in an attempt to advance the prosecution of this application at this time, various amendments have been made to the independent claims to further distinguish the claims from the prior art cited by the Examiner.

Dealing with first with the rejection of claims based on the Caine reference in combination with Carroll, Caine states that the “...*idea of this invention is to avoid the annoyance and expense of building up temporary wood supports for concrete floors and ceilings, as heretofore very generally been the practice, and to provide a comparatively cheap and effective substitute therefor, whereby a combined concrete floor and ceiling can be laid with materially less outlay for temporary supports and with correspondingly less labor and time in the prosecution of such work....*” (emphasis added). [see Caine at page 1, column 1, lines 39-49]

Thus, Caine recognized the problem associated with having to provide temporary supports when laying unhardened concrete on formwork for a floor/ceiling. However, the solution in Caine did not eliminate the need for temporary auxiliary supports. Rather Caine provides as follows:

“I provide a series of fairly heavy wooden beams E beneath the said slabs and supports or bars G for said beams at the top above the space where the floor is to come and suspend the beams E therefrom by means of suitable wires g or their equivalent and which are arranged to come between the edges of the slabs D and fasten about said beams E.

The bars G at the top are supported temporarily by any suitable means here and there over the I-Beams, and when all the parts are arranged and built together substantially as seen in Figs. 4 and 5 there are ready to receive the concrete.....When the work is done the concrete is hardened, the beams or bars E and G are removed and adapted to be used over and over again...

...It will be seen by the foregoing that the only temporary and removable members of the entire structure are the upper and lower beams E and G, which remain in place only until the body of the material has hardened to a self-sustaining condition. Otherwise, all the several parts are built in with the concrete and become part of the permanent structure.” [see Caine at page 1, column 2, lines 82 to page 2 line 13].

Claim 75 has been amended to even more clearly distinguish the claim from the prior art cited by the Examiner. Claim 75 now provides that together the form panel unit and the reinforcement unit are capable of supporting the construction material above the panel member when in an unhardened state without any temporary auxiliary supporting members. Therefore, in contrast to the teachings of Caine, the formwork system of claim 75 as amended has no temporary auxiliary supports that are required for support when the concrete is unhardened, and which may then be removed after the concrete has hardened. In the systems of claim 75 as amended, all components of the reinforcement unit remain part of the permanent concrete structure.

Accordingly, it is submitted that claim 75 is patentable over the combination of Caine and Carroll, even if it were proper to combine these references, which the Applicant does not admit.

The Examiner also cited the McDonald reference in combination with Carroll against claim 75. To advance prosecution, claim 75 has also been amended to further distinguish from the teachings of the McDonald reference.

McDonald recognizes the same general problem in existing formworks for floors and roofs. McDonald states:

“The invention relates to improvements in the method and construction of reinforced concrete roadways and building floors or roofs, and more particularly is directed to the use of easily handled truss joints or knock-down parts thereof that can be easily assembled in situ for positioning prefabricated concrete slab units to incorporate same in reinforced concrete roadway or said building constructions entirely eliminating wooden or other forms usually required thereby saving expensive labor and carpentry work, reducing insurance costs on the building job and requiring a minimum of material.” [see McDonald column 1, lines 8-18]

In McDonald, unhardened concrete is supported above the precast slab units 22 that include as part of their make up various components that enable slab units 22 to be able to

resist the load associated with unhardened concrete. In particular, it is noted that concrete slab units 22 are themselves reinforced with wire mesh or expanded sheet metal 22f in a manner that is commonly known to reinforce concrete. This is in large part why slab units 22, unlike the slabs D in the Caine reference above, do not require additional temporary supports to support the slab 22 when supporting unhardened concrete above its upper surface.

Slab units 22 in McDonald also have integrated therein additional separate components that fulfill other functions. For example, separate connector links 22c connect the pre-cast slabs 22 to supporting joists 21. Also, pre-cast slabs 22 have headed studs 22q which are interconnected to a separate saddle 22t *"for interlocking adjoining slab units 22 to retain same against alignment displacement"* [see McDonald column 22, lines 64-71].

Thus, in overview, the precast-slabs 22 of McDonald provide separate integrated components, each serving a different purpose. The Examiner has referred to truss member 21c as being a "strengthening member" that is part of the reinforcement unit. While not accepting that truss member 21 is a strengthening member of a reinforcement unit as defined by claims 75, it is particularly noted that truss 21 supports and is directly connected to a plurality of longitudinally arranged, adjacent pairs of slabs 22 along longitudinal adjacent edges (see Figure 1). Clearly, this is a relatively complex arrangement.

Claim 75 now provides that the reinforcement unit comprises a unitary structure (ie. it has all its components interconnected to each other). This feature distinguishes amended claim 75 from the McDonald reference.

Additionally, claim 75 now provides that the reinforcement unit is directly connected to only the single panel member to which it is attached. The strengthening member of the reinforcement unit strengthens only the single panel member to which the reinforcement unit is directly connected. These are important features of the Applicant's invention as defined by claim 75 as amended. As the reinforcement unit is only connected to a single panel member and as the strengthening member of the unit strengthens only a single panel member to which it is directly connected, the panel unit as a whole can be relatively easily utilized in setting up

a concrete formwork for a concrete ceiling and/or floor. Thus, in this formwork system using such a panel unit, one or more persons can simply pick up a panel unit having at least on reinforcement unit directly connected to it and then simply place the panel unit on one or more structural support members. The unhardened concrete can then be placed on top of the panel units, without the need for any temporary support members.

It is respectfully submitted that there is no teaching or suggestion in either Caine, McDonald or Carroll, to provide the formwork system as now defined by claim 75 as amended.

Accordingly, it is submitted that claim 75 is patentable over the combination of McDonald and Carroll, or Caine and Carroll, or any other combination of these references, even if it were proper to combine these references, which the Applicant contests.

Applicant has also made similar amendments to the following independent claims: 91, 144, 158 and 159 and it is respectfully submitted for similar reasons that these claims are patentable over the McDonald, Caine and Carroll references.

Applicant has amended claim 128 to address the objection raised under 35 USC 112 but requests the Examiner reconsider the rejection of this claim as amended based on the cited prior art. In particular, claim 128 recites that the reinforcement unit comprises an upper compression member positioned above the upper surface of the panel member, whereby said panel member is compressed between the connecting member and the upper compression member. It is respectfully submitted that this feature distinguishes claim 128 from the prior art cited by the Examiner.

As set out above, Applicant has requested the Examiner reconsider the objection to claim 134 raised under 35 USC 112. Applicant also requests the Examiner reconsider the rejection of this claim as amended based on the cited prior art. In particular, claim 134 as amended provides that the reinforcement unit has a portion extending from proximate the upper surface of said panel member and passes through the lower surface of said panel

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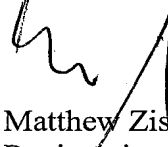
member to provide support at the lower surface of the panel member. It is respectfully submitted that this feature distinguishes claim 134 from the prior art cited by the Examiner.

In view of the foregoing, it is respectfully submitted that each of independent claims 73, 75, 91, 128, 134, 144, 158, and 159 is allowable over the McDonald, Caine, and Carroll references.

All remaining claims are believed to be dependent directly or indirectly upon one of the aforementioned pending independent claims.

In view of the foregoing amendments and remarks, favourable reconsideration and allowance of this application is respectfully requested.

Respectfully submitted,



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